

## **Historic, archived document**

Do not assume content reflects current scientific knowledge, policies, or practices.



*LVP  
1923  
Reserve*

U. S. Department of Agriculture, Forest Service

# FOREST PRODUCTS LABORATORY

In cooperation with the University of Wisconsin

MADISON, WISCONSIN



List of publications on  
**PULP AND PAPER**

March 10, 1923



LIST OF PUBLICATIONS ON PULP AND PAPER

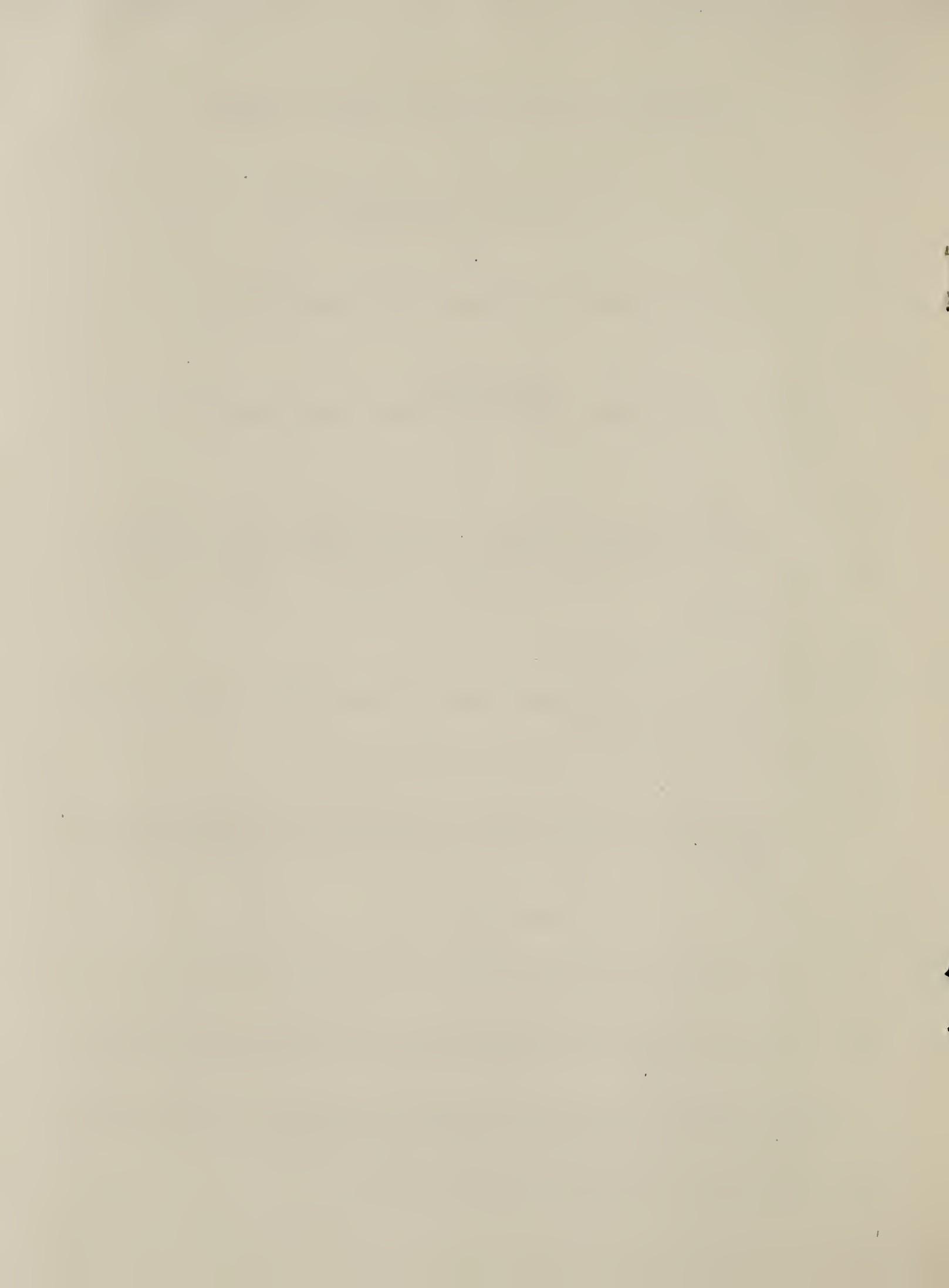
Forest Products Laboratory  
Madison, Wisconsin

PUBLICATIONS AVAILABLE FOR DISTRIBUTION

MIMEOGRAPHS

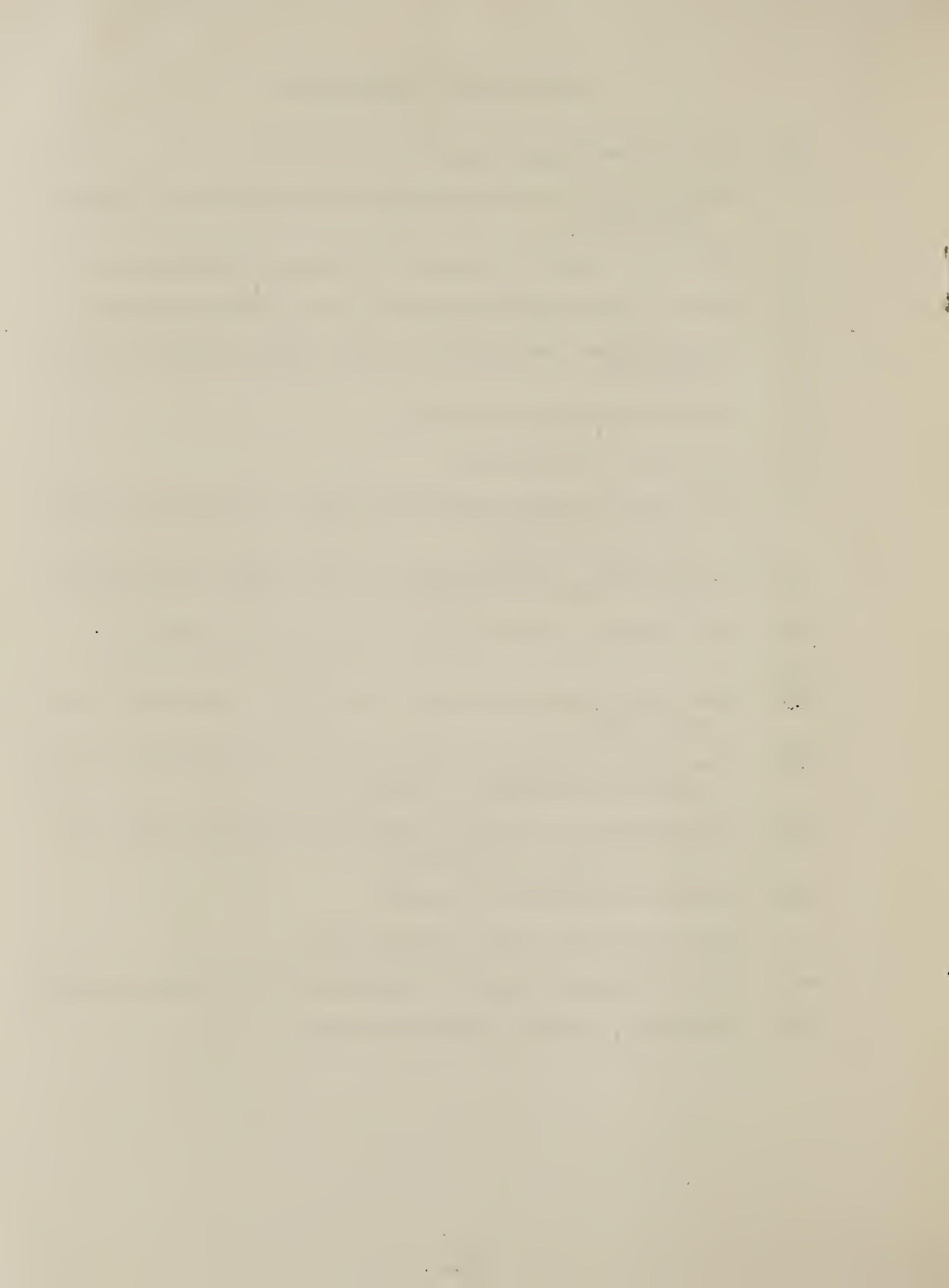
(Please give both number and title when ordering)

- 547 Acid resisting qualities of different alloys against bisulphite cooking liquor. (Metal fittings for digesters.)
- 556 Advantages of liquid sulphur dioxide in sulphite pulp manufacture.
- 493 Baled pulpwood chips.
- 02-5 Brief list of reference works dealing with pulp and paper making in general.
- 463 Chemical control of the kraft process.
- 514 Consumption of chemicals by the sulphate process.  
(Results of experiments to determine the consumption of chemicals in pulping of unbarked wood by the kraft process.)
- 485 Deinking of old newspapers.
- 542 Effects of moisture introduced into the digester in the cooking of soda pulp.
- 657 Factors influencing the value of pulpwood. Observations on the storage of pulpwood for the manufacture of sulphate pulp.
- 1 Fiber board - Effect of varying humidities on the strength of fiber board and its component plies.
- 529 How paper is affected by humidity.



MIMEOGRAPHS (Continued)

- 02-6 List of references on pulp and paper.
- 81 Measurement of pulpwood and determination of yields therefrom.
- 122 Moisture regain of paper at different humidities.
- 593 Paper making qualities of various fibrous plants.
- 710 Preservative treatment for wood pulps preparatory to storage.
- 645 Pulping yellow pine chips.
- 641a Purchase of pulpwood.
- 515 Recovery of waste paraffined paper by extraction with volatile solvents.
- 02-418 Select paper bibliography of U.S. Government publications on pulp and paper.
- 119 Some general notes on pulp and paper manufacture.
- 549 Some observations on the retention of china clay by paper pulp.
- 358 Some observations on the influence of humidity on the physical constants of paper.
- 635 Suitability of various species of American wood for pulp and paper production.
- 448 Tearing resistance of paper.
- 2 Use of bark for paper specialties.
- 449 Use of wood pulp in the manufacture of nitrocellulose.
- 799 Wilkinite, a new loading material.



REPRINTS

(Please give title and author's name when ordering)

---

\*Advantage of liquid sulphur dioxide in sulphite pulp manufacture. By V. P. Edwardes.

Book paper from southern pines and gums. By S. D. Wells.

Chemical constitution of soda and sulphate pulps from coniferous woods and their bleaching qualities. By S. D. Wells.

Chemical investigation of sound and infected groundwood pulp. By S. A. Mahood and D. E. Cable.

Chemistry of the sulphite process. By R. N. Miller and W. H. Swanson.

Chemistry of the sulphite process: Chemical properties of pulps prepared by indirect cooking. By M. W. Bray and T. M. Andrews.

Effect of varying certain cooking conditions in the production of sulphite pulp from spruce. By S. E. Lunak.

Equipment and operation of an experimental pulp and paper laboratory. By Otto Kress, S. D. Wells, and V. P. Edwardes.

Further studies on numerical expression for color as given by Ives Tint photometer. By Otto Kress and G. C. McNaughton.

Grinding of wood from old and young trees. By G. C. McNaughton.

Influence of moisture on tests of container boards. By S. D. Wells.

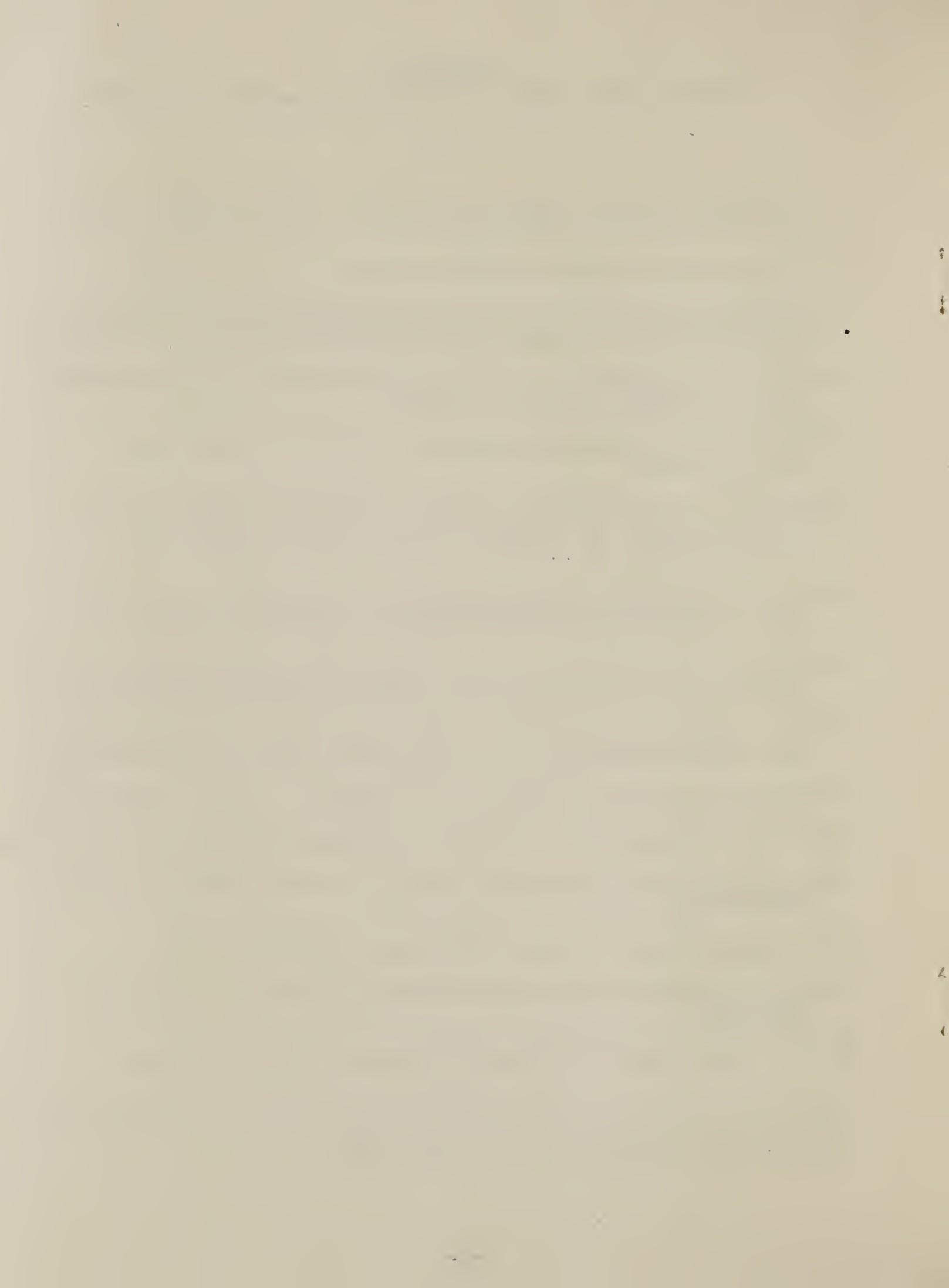
Means of accurately matching colors. By Otto Kress and G. C. McNaughton.

More pulp per cord of wood - Why not? By John D. Rue.

New tearing machine measures strength of paper. By Armin Elmendorf.

Notes on the coloring of pulp and paper. By Otto Kress.

-----  
\*Mimeographed copies are also available.



REPRINTS (Continued)

Proposed modification of the sulphite process. Shortening cooking time by preliminary impregnation in the production of sulphite pulp. By V. P. Edwardes.

\*Pulp and pulpwood decay. Preliminary report. Forest Products Laboratory.

Pulp evaluation as affected by the fiber ratio in the test sheets. By C. L. Bachelder.

Pulp from cotton linters. By Otto Kress and Sidney D. Wells.

Pulpwood consumption and wood pulp production in 1920. By R. V. Reynolds and A. H. Pierson.

Some observations on the determination of cellulose in wood. By S. A. Mahood.

Suitability of second cut cotton linters, cotton shavings, and hull fiber for paper manufacture. By Otto Kress and S. D. Wells.

Suitability of cotton hull fiber for pulp and paper manufacture. By Otto Kress.

\*Suitability of various species of American woods for pulp and paper manufacture. By Otto Kress, S. D. Wells, and V. P. Edwardes.

Sulphate pulping experiments - yields from various American woods. By Otto Kress.

Utilization of oat hulls for strawboard and paper pulp. By S. D. Wells.

\*Wilkinite, a new loading material. By S. D. Wells.

Yield of groundwood pulp from various woods. Forest Products Laboratory.

---

\*Mimeographed copies are also available.



TECHNICAL NOTES  
(Please give both number and title when ordering)

- C-8 Acid-proof linings for experimental sulphite digester.
- 117 Book paper from southern pine and red gum.
- 179 Deinking of newspapers.
- 84 Effect of decay on paper making qualities of wood pulp.
- C-3 Effect of moisture on the strength of paper.
- 102 Gas masks in pulp and paper mills.
- C-7 Grinding of wood from young and old trees.
- C-9 Nitrocellulose from wood pulp.
- 109 Paper from veneer waste.
- 93 Pulp output reduced by long storage.
- C-4 Pulping extracted yellow pine chips.
- 88 Rapid method of determining the active strength of sulphate cooking liquor.
- C-2 Recovery of waste paraffined paper.
- 123 Reduce pulpwood decay by proper storage.
- 97 Tearing strength of paper.
- 168 Testing fiber board for strength.
- 126 Uniformity of digester chip charges.
- C-10 Waste liquid sulfur dioxide for manufacture of sulphite acid.
- C-5 Waste of chemicals in pulping unbarked wood by the sulphate process.



## FOREST SERVICE BULLETINS

The bulletins listed below are not available for general distribution from the Forest Products Laboratory. They may be obtained from the Superintendent of Documents, Washington, D. C., at prices given until the supply is exhausted. Remittances should be made by money order, or in coin (at sender's risk); stamps can not be accepted. Publications out of print can usually be consulted at any public library.

<u>Title</u>	<u>Date of Issue</u>
*Paper pulp from various woods. Forest Service unnumbered bulletin,	1912
*Experiments with jack pine and hemlock for mechanical pulp, Forest Service Bulletin, (unnumbered), 15 cents.	1912
Bibliography of the pulp and paper industries, Forest Service Bulletin 123.	1913
Grinding of spruce for mechanical pulp, Forest Service Bulletin 127, 15 cents.	1913
Suitability of longleaf pine for paper pulp, Department of Agriculture Bulletin 72, 5 cents	1914
Effects of varying certain cooking conditions in producing soda pulp from aspen, Department of Agriculture Bulletin 80, 15 cents.	1914
*Ground-Wood pulp. Part I. - Grinding of cooked and uncooked spruce; Part II. - Substitutes for spruce in the manufacture of ground-wood pulp, Department of Agriculture Bulletin 343, 50 cents.	1916
Effect of varying certain cooking conditions in the production of sulphite pulp from spruce, Department of Agriculture Bulletin 620, 15 cents.	1918

---

\*Indicates the supply is exhausted.



FOREST SERVICE BULLETINS (Continued)

<u>Title</u>	<u>Date of Issue</u>
Wooden and fiber boxes. Department of Agriculture, Forest Service Circular No. 177.	1918
Regional development of pulpwood resources of the Tongass National Forest, Alaska. Department of Agriculture Bulletin No. 950. 10 cents.	1921



DEPARTMENT OF AGRICULTURE BULLETINS

The bulletins listed below originated in bureaus of the Department of Agriculture other than the Forest Service and pertain to pulp and paper subjects. They must be obtained from the Superintendent of Documents according to the conditions outlined on the preceding page.

Zacaton as a paper making material.

Bureau of Plant Industry, Department of Agriculture  
Bulletin 309, 5 cents. 1915.

Utilization of American flax straw in paper and fiber board industry. Bureau of Plant Industry, Department of Agriculture Bulletin 322, 1916. 5 cents.

Hemp hurds as a paper making material.

Bureau of Plant Industry, Department of Agriculture  
Bulletin, 1916, 5 cents.

Crop plants for paper making.

Bureau of Plant Industry, Department of Agriculture,  
Circular 82. Reprint. 1916



BIBLIOGRAPHY OF PUBLISHED ARTICLES.  
ON PULP AND PAPER BY MEMBERS OF  
THE FOREST PRODUCTS LABORATORY

---

This bibliography is classified according to subject and the articles listed chronologically under each heading. None of the articles given in this list are available for distribution excepting certain ones included in the foregoing list of mimeographs, reprints and technical notes. Others must be consulted in the original journal of publication. Files of the latter are usually available in the various public, university and technical libraries.

---

WOOD AS A RAW MATERIAL

Pulping qualities of the woods of the Northwest.  
By H. E. Surface, Paper Trade Journal, Feb., 1910.

Suitability of longleaf pine for paper pulp.

H. E. Surface and R. E. Cooper, Paper Mill,  
June 1914; Paper, June 1914; U.S.D.A.Bul. 72

Experiments with longleaf pine.

S. D. Wells, Paper Mill and Wood Pulp News, Jan. 3, 1914.

Pulpwood and mill sites in Alaska.

H. E. Surface, Paper, Mar. 31, 1915.

Wood waste and other pulpwoods used in 1914 by United States mills. H. E. Surface, Metallurgical & Chem. Engineering, June 15, 1916; Paper, June 14, 1916.

Pulpwood consumption and wood pulp production, 1916.  
Franklin H. Smith, U.S.D.A.Bull. 728, 1916

Purchase of pulpwood.

C. P. Winslow and R. Thelen, Paper, Oct. 4, 1916.

Baled pulpwood chips.

Rolf Thelen, Paper, Feb. 14, 1917; Paper Trade Journal, Feb. 8, 1917.



## BIBLIOGRAPHY (Continued)

Purchase of pulpwood. Method of determining moisture content and specific gravity of wood. By Committee on purchasing of pulpwood, Technical Association of the Pulp and Paper Industry, - C. P. Winslow, O. L. E. Weber, and W. R. Wheaton. Paper, Oct. 3, 1917.

Report on suitability of various American woods for the manufacture of kraft pulp. By Otto Kress, Chairman, Committee on Sulphate Pulp, Technical Association of the Pulp and Paper Industry. Paper, Oct. 7, 1917.

Suitability of various species of American woods for pulp and paper production. By Otto Kress, S. D. Wells, and V. P. Edwardes, Paper, July 30, 1919; Pulp and Paper Magazine, Sept. 25, 1919; Paper Industry, August, 1919.

Structure of woods used in the pulp and paper industry. By Eloise Gerry, Paper, Apr. 21, 1920.

Measurement of pulpwood and determination of yields therefrom. By Otto Kress, Paper, Nov. 8, 1920.

Book paper from Southern pine and gums.

By S. D. Wells, Scientific American Monthly, May, 1921; Southern Lumberman, Dec. 25, 1920; Paper, Nov. 24, 1920.

Book paper from Southern woods.

By S. D. Wells, Scientific American Monthly, May, 1921.

Jack pine as a substitute for spruce.

By John D. Rue, Paper Trade Journal, Nov. 10, 1921

Comparison of wood cellulose and cotton cellulose.

By S. A. Mahood and D. E. Cable, Journal Industrial and Engineering Chemistry, August, 1922.



## PULPING PROCESSES

### Mechanical

Effect of various grinding conditions on the quality and production of mechanical pulp. By McGarvey Cline and J. H. Thickens, Reprint - Eighth International Congress of Applied Chemistry, 1912.

Experiments with jack pine and hemlock for mechanical pulp. By J. H. Thickens, Forest Products Laboratory Series, 1912.

Grinding of spruce for mechanical pulp.  
By J. H. Thickens, Forest Service Bulletin No. 127, 1913.

Ground-wood pulp.

By J. H. Thickens and G. C. McNaughton. U. S. D. A. Bulletin 343, Paper, June 7 - 28; Paper Mill, May 27 - July 1, 1916; Pulp and Paper Magazine of Canada, June 15 - July 1, 1916.

Sediment tester for groundwood pulp.

By V. E. Fishburn and O. L. E. Weber, Paper, Oct. 11, 1916.

Grinding of wood from old and young trees.

By G. C. McNaughton, Paper, Nov. 1, 1916.

Factors in the quality of groundwood pulp.

By G. C. McNaughton, Chairman, Committee on groundwood, Technical Association of Pulp and Paper Industry, Paper, Oct. 3, 1917.

### Sulphite

Acid resisting qualities of different alloys against bisulphite cooking liquor. By S. E. Lunak, Paper, Oct. 4, 1916.

Effect of forced circulation on sulphite cooking.  
By S. E. Lunak, Paper, Feb. 21, 1917.



Effect of varying certain cooking conditions in the production of sulphite pulp from spruce. By S. E. Lunak, U. S. D. A. Bulletin 620, 1918; Paper, Feb. 15, 1917.

Burner-gas cooling. Some problems of general interest in the manufacture of acid sulphite solution. By A. S. Cosler, Paper, Feb. 13, 1918.

Testing methods in sulphite work.

By S. E. Lunak, Paper, Feb. 13, 1918.

Sulphite turpentine.

By A. W. Schorger, Journal Industrial and Engineering Chemistry, April, 1918.

Advantages of liquid sulphur dioxide in sulphite pulp manufacture. By V. P. Edwardes, Paper, April 21, 1920.

Shortening cooking time by preliminary impregnation in production of sulphite pulp. By V. P. Edwardes, Paper Trade Journal, Apr. 14, 1921.

Proposed modification of the sulphite process.

By V. P. Edwardes, Technical Association of the Pulp and Paper Industry, Technical Papers Series IV., June, 1921.

Chemistry of the sulphite process.

By R. N. Miller and W. H. Swanson, Paper Trade Journal, Apr. 13, 1922; Paper, April 19, 1922; Paper Mill, April 15, 1922.

Chemistry of the sulphite process. II. Chemical properties of pulps prepared by indirect cooking. By M. W. Bray and T. M. Andrews, Paper Trade Journal, Jan. 18, 1923.

Chemistry of the sulphite process. III. Reactions of the calcium base. By R. N. Miller & W. H. Swanson, Paper Trade Journal, March 1, 1923.

### Soda and Sulphate

Some experiments on the conversion of longleaf pine to paper pulp by the soda and sulphate processes. By S. D. Wells, Pulp and Paper Magazine of Canada, Sept. 15, 1913; Journal of Industrial and Engineering Chemistry, November, 1913.



Effect of varying certain cooking conditions in producing soda pulp from aspen. By H. E. Surface, U.S.D.A Bulletin 80, 1914.

Diminishing of fuzz in the cooking of soda pulp from aspen. By S. D. Wells, Paper, Oct. 6, 1915.

Chemical control of the kraft process.  
By Otto Kress, Paper, Feb. 23, 1916.

Effects of moisture introduced into the digester in the cooking of soda pulp. By S. D. Wells, Paper, July 5, 1916; Journal Industrial and Engineering Chemistry, July, 1916.

Results of experiments to determine the consumption of chemicals in the pulping of unbarked wood by the kraft process. By Otto Kress and C. K. Textor, Paper, July 26, 1916.

Report of sulphate pulp committee.  
By Otto Kress, Paper, Feb. 14, 1917.

Report and suitability of various American woods for the manufacture of kraft pulp. By Otto Kress, chairman, Committee on sulphate pulp, Technical Association of the Pulp and Paper Industry, Paper, Oct. 7, 1917.

Observations on the storage of pulpwood for the manufacture of wood pulp. By Otto Kress and Sidney D. Wells, Paper Trade Journal, July 4, 1918.

Some experiments on the pulping of extracted yellow pine chips by the sulphate process. By Otto Kress and C. K. Textor, Journal Industrial and Engineering Chemistry, April, 1918; Paper, April 10, 1918.

Bibliography of sulphate pulp and kraft paper.  
By C. K. Textor, Paper Trade Journal, July 28 - August 18, 1921.

Chemical constitution of soda and sulphate pulps from coniferous woods and their bleaching qualities. By S. D. Wells, Journal of Industrial and Engineering Chemistry, October, 1921.



## Pulp and Pulpwood Decay

Some observations on the deterioration of wood and wood pulp due to infection by fungi with suggestions as to their control. By Otto Kress, C. J. Humphrey, and Audrey Richards, Paper, Oct. 1, 1919.

Chemical investigation of sound and infected groundwood pulp. By S. A. Mahood and D. E. Cable, Paper, Feb. 18, 1920.

Additional notes on progress in study of wood and wood pulp infection and decay. By Otto Kress and C. J. Humphrey, Paper Trade Journal, Nov. 18, 1920.

Pulp and pulp wood decay, preliminary report.

By American Paper & Pulp Association in cooperation with the Forest Products Laboratory. Bulletin of the American Paper and Pulp Association.

Chemical changes involved during infection and decay of wood and wood pulp. By M. W. Bray and J. A. Staidl, Journal Industrial and Engineering Chemistry, Jan. 1922.

## By-Products

Use of bark for paper specialties.

By Otto Kress, Paper, Oct. 4, 1916; Journal Industrial and Engineering Chemistry, Vol. 8, No. 10, p. 883, Oct. 1916.

Sulphite turpentine.

By A. W. Schorger, Journal Industrial and Engineering Chemistry, April, 1918; Paper, March 1918.

Use of wood pulp in the manufacture of nitrocellulose.

By S. D. Wells, and V. P. Edwardes, Paper, Feb. 12, 1919.

Recovery of waste paraffined paper by extraction with volatile solvents. By Otto Kress and L. F. Hawley, Journal Industrial and Engineering Chemistry, March, 1919.

Nitrating of wood pulp cellulose.

S. D. Wells and V. P. Edwardes, Paper, Feb. 12, 1919.



Utilization of waste hemlock bark from pulp mills for tanning purposes. By V. P. Edwardes, Journal of the American Leather Chemists Association, Paper, Aug. 20, 1919.

Utilization of bark as fuel.

By E. R. Schafer, Paper Trade Journal, May 25, 1922, p. 57.  
(Vol. 74, No. 21, p. 57.)

### Vegetable Fibers

Suitability of second cut cotton linters, cotton shavings, and hull fiber for paper manufacture. By Otto Kress and S. D. Wells, Paper, July 18, 1919; Pulp and Paper Magazine of Canada, August 21 - 28, 1919.

Suitability of cotton hull fiber for pulp and paper manufacture. By Otto Kress, Paper Trade Journal, Dec. 10, 1919.

Some further mill trials on the pulping of second cut cotton linters. By Otto Kress and S. D. Wells, Paper, Apr. 21, 1920.

Utilization of oat hulls for straw board and paper pulp.

By S. D. Wells, Paper Trade Journal, Nov. 3, 1921, and Paper Mill and Wood Pulp News, May 20, 1922.

### Paper and Pulp Tests and Quality

Means to measure glaze of paper.

By L. R. Ingersoll, Pulp and Paper Magazine of Canada, April, 1914.

Glarimeter, an instrument for measuring the glare of paper.

By L. R. Ingersoll, Electrical World, March 21, 1914; World's Paper Trade Review, May 15, 1914, La Papeterie, May 10, 1914.

Standard tests and processes.

By Otto Kress, Paper, Sept. 29, 1914.

Spun paper and some of its uses.

By R. Thelen, American Lumberman, July 8, 1916; Paper, July 26, 1916.



Forestry Service investigates use of wood waste for pulp.  
By H. E. Surface, Paper Mill, July 8, 1916.

Numerical expression for color as given by the Ives tint photometer. By Otto Kress and G. C. McNaughton, Paper, August 2, 1916; Journal Industrial and Engineering Chemistry, August, 1916.

Some observations on the influence of humidity on the physical constants of paper. By Otto Kress and Phillip Silverstein, Paper, Feb. 28, 1917, Journal Industrial and Engineering Chemistry, March, 1917.

Further studies on a numerical expression for color as given by the Ives Tint Photometer. By Otto Kress and G. C. McNaughton, Journal Industrial ad Engineering Chemistry, March 1, 1917, Paper, Feb. 21, 1917.

Some observations on the retention of china clay by paper pulp. By Otto Kress and G. C. McNaughton, Paper, Oct. 3, 1917.

Effect of varying humidities on the strength of fiber board and its component plies. By Otto Kress and G. C. McNaughton, Paper, May 22, 1918.

Moisture regain of papers at different humidities.  
By Otto Kress and G. C. McNaughton, Paper, Aug. 21, 1918.

Tearing resistance of paper.  
By S. D. Wells, Paper, Feb. 12, 1919.

Some notes on the coloring of paper.  
By Otto Kress, Paper Industry, August, 1919.

Pulp discoloration.  
By C. L. Bachelder, Paper, August 27, 1919.

Theory and art of coloring paper.  
By Otto Kress, Paper Industry, August, 1919.

Coloring of Paper  
By Otto Kress, Paper, Jan. 7, 14, 21, 1920.

Testing the tearing strength of paper.  
By A. E. Elmendorf, Paper Mill and Wood Pulp News, April 17, 1920.



Pulp evaluation as affected by the fiber ratio in the test sheets. By C. L. Bachelder, Paper, Nov. 17, 1920.

Moisture influence on tests of container board.

By S. D. Wells, Paper Trade Journal, Dec. 7, 1922, p. 47, (Vol. 75, No. 23, p. 47).

### Bibliography

List of United States public documents pertaining to pulp and paper. By H. E. Surface, Journal of Industrial and Engineering Chemistry Paper, July 13, 1913.

Bibliography of pulp and paper industries.

By H. E. Surface, U. S. Forest Service Bulletin 123, 1913.

United States Government publications pertaining to pulp and paper. By H. E. Surface, Paper, Oct. 4, 1916.

Bibliographic standards recommended for the pulp and paper industry. By H. E. Surface, Paper, Feb. 13, 1918.

United States pulp mills.

By H. E. Surface and F. H. Smith, Paper Trade Journal, Feb. 6, 1919.

Paper research literature.

By E. L. Matthews, Paper, April 30, 1919.

Bibliography of sulphate pulp and kraft paper.

By C. K. Textor, Paper Trade Journal, July 28 - Aug. 18, 1921.

### Miscellaneous

Wood pulp experiments of the Forest Service.

By H. S. Bristol, Paper Mill, 1908.

Paper - One of Wisconsin's chief products.

By H. S. Betts, Wisconsin Arbor & Bird Day Annual, 1913.

Future of the pulp and paper industry.

By O. L. E. Weber, Paper, Feb. 25, 1914.



Forest Products Laboratory an aid to the paper industry.  
By S. D. Wells, Paper Mill, Aug. 7 - 14, 1915.

Standardization of method of factory control.  
By Otto Kress, Paper, Sept. 15, 1915.

Some uses of wood pulp.  
By S. F. Acree, Paper, Nov. 17, 1915.

Pulp and Paper investigations of the Forest Products Laboratory in 1918. By V. P. Edwardes, Paper Trade Journal, Feb. 6, 1919.

Equipment and operation of an experimental laboratory.  
By Otto Kress, S. D. Wells, and V. P. Edwardes, Paper April 21, 1920.

Wilkinite, a new loading material.  
By S. D. Wells, Paper Trade Journal, Nov. 18, 1920.

The South as a source of paper.  
By S. D. Wells, Paper, July 6, 1921; Paper Trade Journal, June 9, 1921.

More pulp per cord of wood - Why not?  
By John D. Rue, Chemical and Metallurgical Engineering, August 31, 1921.

Making new paper from old paper stock.  
By S. D. Wells, Paper, June 7, 1922.

Some observations on the de-inking of old newspapers.  
By S. D. Wells, Paper Trade Journal, June 22, 1922, p. 47,  
(Vol. 74, No. 25, p. 47); Pulp and Paper Magazine of Canada, July 21, 1922; Boxboard, July, 1922.

Factors influencing the properties of wood cellulose as isolated by the chlorination method. By M. W. Bay and T. M. Andrews, Paper Trade Journal, Feb. 22, 1923, p. 47, (Vol. 76, No. 8, p. 47).

